

WHAT IS CLAIMED IS:

1. A solid state image pickup apparatus  
comprising: a photoelectric conversion element;  
transfer switch means including a MOS transistor for  
5 transferring a signal charge generated in said  
photoelectric conversion element; a floating diffusion  
area for receiving the signal charge through said  
transfer switch means; reset switch means including a  
MOS transistor for resetting the potential of said  
10 floating diffusion area; and at least one potential  
setting means for generating a voltage different from  
the power supply voltage, wherein the output of said  
potential setting means is applied as a pulse to the  
gate of said transfer switch means and/or the gate of  
15 said reset switch means.

2. A solid state image pickup apparatus according  
to claim 1, wherein the amplitude of the pulse applied  
to the gate of said transfer switch means is different  
20 from that of the pulse applied to the gate of the reset  
switch means.

3. A solid state image pickup apparatus according  
to claim 1, wherein the amplitude of the pulse applied  
25 to the gate of said transfer switch means is smaller  
than that of the pulse applied to the gate of the reset  
switch means.

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4. A solid state image pickup apparatus according to claim 2, wherein the amplitude of the pulse applied to the gate of said transfer switch means is smaller than that of the pulse applied to the gate of the reset switch means.

5. A solid state image pickup apparatus according to claim 1, wherein said photoelectric conversion element is a PN photodiode formed on a semiconductor substrate.

6. A solid state image pickup apparatus according to claim 2, wherein said photoelectric conversion element is a PN photodiode formed on a semiconductor substrate.

7. A solid state image pickup apparatus comprising: a PN junction capable of photoelectric conversion; a transferring MOS transistor for transferring a signal charge generated in said PN junction; a floating diffusion area for receiving the signal charge through said transferring MOS transistor; a resetting MOS transistor for resetting the potential of said floating diffusion area; first potential setting means for setting the voltage applied to the gate of said transferring MOS transistor; and second potential setting means for setting the voltage applied to the gate of said setting MOS transistor.

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